The Fuel of Educational Psychology and the Fire of Action Research

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In 1912 William James proclaimed that psychology and pedagogy were unquestionably intertwined and equally important foundations of effective practice. Unfortunately, many students seeking degrees in education sometimes do not recognize the importance and applicability of educational psychology to pedagogy, especially if it is taught in a way that is removed from their perceived immediate needs.

One practical way to help them recognize its significance is through the blending of educational psychology and action research. Action research is defined as a type of applied research that focuses on finding a solution to a local problem and, like educational psychology, it was developed to improve teaching and learning. Both educational psychology and action research are grounded in everyday classroom problems teachers face, based on data, and dedicated to improving classroom life. This article is a reflective piece that explains my use of educational psychology with pre-service teachers doing action research. It explains the action research cycle students complete and where and how the ideas within this cycle are fueled with theories from educational psychology.

Keywords: action research, theory practice relationship, college instruction, preservice teacher education

Courses in educational psychology or are the backbone of teacher education, a view that educators have recognized for a long time. In 1912 William James proclaimed that psychology and pedagogy were unquestionably intertwined and equally important foundations of effective practice. However, along with the potential benefits, James also cautioned against burdening teachers with complex theories, especially those that could not truly impact classroom life. Likewise, Peterson, Clark, & Dickerson (1990) stated that educational psychology continues to be an invaluable resource of fundamental knowledge for teachers, but its potential can only be realized when it is seen and used in real classrooms. More recently, Knapp and Seifert (2005) noted the potential of educational psychology to improve teaching, but cautioned that, to be useful, its goals and purposes must be articulated in ways teachers can comprehend and use. Indeed, in many college classrooms across our country and abroad, the teaching of educational psychology has become the "foundation" of pre-service teacher education (Anderson, Blumenfeld, Pintrich, Clark, Marx, & Peterson, 1995; Pintrich, 2000). The recognition of educational psychology's value began early and continues today (Alexander, 2004a).

Educational psychology has perhaps enhanced value today because it aligns with current legislation enacted in the No Child Left Behind Act (2002). Theories and principles of educational psychology translate into best practices for teaching because they are based on empirical evidence, not speculation and unproven facts. Researchers in educational psychology strive to collect reliable and valid data, record findings meticulously, and use critical analysis to develop their ideas. Teachers who use educational psychology to inform their practices benefit from this work. They develop clearer insight into how learning, motivation, and development intertwine and contribute to the meanings students construct from instruction (Alexander, 2004b; Berliner, 1993). They are better able to understand the complexity of educational issues and recognize that no one single curriculum or new theory has the answer for all their students' needs (Anderson, et al., 1995). Teachers with a psychological perspective continue to gain knowledge from research and this, in turn, enhances their teaching. Understanding educational psychology has the potential to make teachers into critical thinkers and problems solvers; abilities that can lead them to becoming "highly qualified" in the best sense of the term (Alexander, 2004b; Anderson, et al., 1995). Understanding theories of learning, motivation and child development and their applicability can help teachers make sound instructional decisions that lead to achievement of the Standards for learning set forth by states and districts in response to the No Child Behind Act (NCLB) (2002).

However, if students in teacher preparation programs do not see how theories from educational psychology can help them meet the official Standards for which they will be held accountable, they may not see the value in them. Students today are very aware of NCLB and the demands placed upon them. I know this because I teach an introductory educational psychology course titled Professional Development, Learning, and

Motivation to college juniors enrolled in a teacher preparation program. My students take a 12-hour course load and are in a field placement four to six hours per week for the entire 15 weeks of the semester. Being in classrooms and having the opportunity to work with children affords my students insight into the complexity and challenges of meeting mandated Standards in day-to-day classroom life; it also offers me the opportunity, responsibility, and challenge of helping them use theories and principles from educational psychology to find ways to help students achieve those Standards, and to become highly qualified teachers themselves.

However, at the beginning of the semester many of my students do not know what educational psychology is about, other than that it is a required course, and they do not immediately recognize the importance and applicability of findings in the field. Even though my students have many intuitive notions of psychology and know a few names like Skinner and Pavlov, they do not truly understand what educational psychology can offer them as teachers. Many students enter my class thinking educational psychology is about memorizing names, theories, and dates. Given this perception, it is no wonder that many tell me they would rather be taking methods courses that offer hands-on materials and activities they can immediately use.

In addition I have found that my students, like many in the 21st century, avoid and dislike coursework if it is taught in a dry format. Students in colleges today want learning to be active and useful. They want to be engaged in authentic tasks as they strive to construct meaning for themselves (National Center on Education and the Economy, 2007). As an instructor of educational psychology this makes sense to me, so I have worked hard to help my students understand that educational psychology is more than names and facts. I strive to help my students see the practical and applicable value of educational psychology by making theory come alive (Author & Hansen, 2005). To do this, I show my students how theories and principles from educational psychology can be used to understand classroom life and solve real problems. I try to bridge the gap between theories and principles learned in my course and what my students do in their interactions with children in the field. The most practical way I have found to do this is through the blending of educational psychology and action research. Therefore, I have my students perform action research using theories and ideas from educational psychology as a guide.

Action research is defined as a type of local, applied research that teachers, administrators, and others do to improve life in a school. Researchers on this topic have found that when teachers engage in action research, they become better problem solvers (Oja & Smulyan, 1989), more critical and reflective about what they do (Cardelle-Elawar, 1993), and that these dispositions, in turn, help them develop professionally (Calhoun, 1994; Mills, 2007; Stringer, 1993). Zuber-Skerritt (1996) notes there is much promise in the art of teaching, the science of research, and a merging of the two.

This promise is embodied in action research, and as an instructor of pre-service teachers I use theories and principles from educational psychology to fuel the action research my students perform. Action research helps teachers become in charge of their craft, and educational psychology makes this a reality. Metaphorically, one might say that, for my students, educational psychology is the fuel that feeds the fire of their action research. Practically, one may look at this combination as helping my students learn how help their students achieve Federal, State, and District mandates. Performing action research with the fuel of educational psychology simply is good teaching and fits well with the concerns addressed by the No Child Left Behind Act (Mills, 2007).

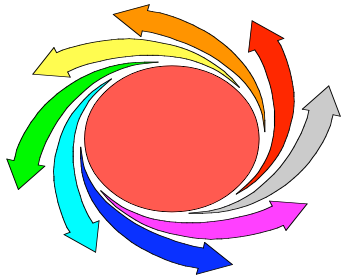
Action Research and Its Forms

Mills (2007) defines action research as systematic study of a problem or issue by teachers or others with the goal of bringing about productive outcomes for children in a specific setting. Because the focus of action research is local improvement, action researchers do not intend their results to be generalizable to other populations, situations, or times. This lack of generalizability causes some to believe that action research is not real research, and this could be true, if one adheres to a rigidly traditional definition of research. However, if conducted thoughtfully, action research, just as other research, has the potential to solve problems teachers face in the classroom, but in a more applied way (Noffke, 1997). Furthermore, when theories from educational psychology are used to guide the process and when issues of reliability and credibility are met, doing action research helps novice teachers learn to think systematically and

problem solve effectively (Levin & Rock, 2003; Zambo & Zambo, 2006; 2007).

Action research is a problem-solving tool my students learn in order to become more critical and reflective about what they do in the classroom. Performing action research is not something new to teaching. It has a long and rich history in the social sciences, rooted in the work of Kurt Lewin (1938, 1946, 1948). Lewin thought of action research as a cyclical, dynamic, and collaborative process one could use to address social issues and concerns. Lewin's (1948) cycle of action involves identifying an issue or problem, finding facts about it, planning ways to improve it, taking a first action step, evaluating and amending the initial step, and repeating the cycle again and gain until the problem is resolved. Today, there are several variations to Lewin's cyclical model. For example, Kemmins and McTaggart (1988) picture action research as a cascade with downward cycles. At the top of their cascade is the problem that needs to be discussed, explored, and clarified. Once the problem is defined, it filters downward to where it is acted upon and these actions are then monitored by collecting more data, followed by deciding what step to take next. These results flow downward for more inspection, revision, and monitoring until a resolution is achieved. Calhoune's metaphor for action research (1993; 1994; 2002) is not cascade-like or spiraling, but rather entails a self-renewing path. To him, action researchers embark upon a journey to solve a problem as they collect, organize, and analyze data to decide which path to take next; this journey is renewing and focused as much on enlightenment and improving oneself as a teacher as it is a specific problem. The journey is never ending but traveled repeatedly. Given these examples, it is easy to see that Lewin's original conception of action research has morphed into a variety of forms and cycles. However, no matter how it is depicted, action research typically entails looking at a problem, discovering more about it, collecting data, analyzing data, and moving forward to change. The cycle I use with my students is based on this idea, but with educational psychology infused as a critical piece (see Figure 1).

Figure 1: *My action research cycle with educational psychology infused*



MY RESEARCH ON ACTION RESEARCH

Action research offers benefits for practicing teachers, and from my experience as a teacher and researcher, I can say these benefits accrue to the pre-service teachers I work with as well. Since I began teaching action research, I have surveyed 459 students at our university who were enrolled in the *Professional Development, Learning, and Motivation* course my colleagues and I teach. Each instructor of this course uses the same educational psychology textbook and requires students to perform action research. We use the same cycle, project requirements, and rubrics to grade our students' work.

To collect data about the effectiveness of the action research element of this course, I developed a questionnaire with four variables to uncover students' views on: 1) learning the process of action research, 2) the perceived benefit of action research for their professional development, 3) the impact action research had on their views of their effectiveness as teachers, and 4) the applicability of action research to their future. Overall, survey results indicate that students in our courses believe they develop the skills needed to perform action research. After doing the project, they have confidence in their ability to find a focus problem, perform a review of the literature, collect and analyze data, and turn to theory to effect change. Our students believe doing action research helps them grow professionally, and this, in turn, increases their sense of teaching efficacy. Furthermore, because our students must connect their action research focus to Standards developed in response to the No Child Left Behind Act (2002) they definitely see action research as important in their future. Doing action research in an educational psychology course provides a reason for students to learn and use psychological theory to solve real problems in real classrooms. The fuel of educational psychology and the fire of action research help students develop professionally Zambo & Zambo, 2006; 2007).

PERFORMING ACTION RESEARCH IN MY CLASS

The action research project my students complete over the course of the semester includes five steps: 1) finding a focus, 2) connecting their focus to a theory or principles and supporting literature, 3) collecting data, 4) analyzing the data they have collected, and 5) developing an intervention plan based on educational psychology. While educational psychology fuels every step of the process, it is especially critical to three key parts; when students find a focus, when they connect their focus to theory, and when they create an intervention plan. The following sections explain how I make these connections and provide scaffolding and support along the way.

Fueling a Focus

The initial step in the action research cycle is finding a focus, or an issue of concern, one wishes to explore (Mills, 2007). In my class students have much autonomy in this step. Any problem or issue or concern can be investigated but it must be student centered (i.e., aimed at increasing the achievement, motivation, behavior, or general success of students in their internship placements), manageable (i.e., does not require outside resources or support), controllable by the student (i.e., doable in one semester), and connected to National, State, or District Standards or to their mentor's annual performance goals.

My students typically do not have much previous experience in classrooms so identifying a focus can be a challenge, and many students need scaffolding to complete this important step. This is the first place where theories and principles from educational psychology fuel their action research. Since I use *Educational Psychology* by Anita Wookfolk (2007) in my class, I have my students search this text for possible focus ideas. For example, because my students are new to the classroom, many of them are anxious about and interested in learning about classroom discipline. I use this interest to fuel ideas by directing students to the chapters on behaviorism, rewards and punishment, self-regulation, and ways to create positive environments. Being new to teaching, my students have many other concerns as well. Some see their mentors modeling strategies and procedures, and because of this they want to learn more about teaching by modeling. To fuel this interest, I direct students to the chapter on Bandura's (1965; 1977) observational learning. Other students are placed in preschools or early childhood classrooms and want to gain a developmental perspective of children's cognitive development. I point these students to chapters on Piaget (1969; 1970) and Vygotsky (1986) as starting points.

In addition to the course textbook, I bring in several supplemental resources. For example, I bring in copies of *Classroom Instruction that Works* by Marzano, Pickering, and Pollock (2005) because it offers insight into instructional techniques proven to increase achievement effect size. I also make copies of *Annual Editions of Educational Psychology* (Cauley, McMillian, & Pannozzo, 2007) available so students can dig through them for ideas. Typical areas for focus questions from these sources are listed in Table 1.

Table 1: *Areas for focus questions taken from a typical educational psychology textbook and books on best practice*

STUDENTS INTERESTED IN PERSONAL, MORAL, AND SOCIAL DEVELOPMENT

Psycho-social development
Self-esteem
Moral development
Bullies and victims
Influences on children today (e.g., divorce, peers, the media)

STUDENTS INTERESTED IN BEHAVIOR AND DISCIPLINE

Behavioral views of learning
Behavior management strategies (e.g., rules, rewards, and consequences)
Applied behavioral analysis
Self-regulation
Learning from models

STUDENTS INTERESTED IN TEACHING

Teacher expectations
Teaching for tolerance and creativity
Maintaining and creating a positive learning environment
Homework
Communicating with students and parents
Student centered teaching
Direct instruction
Technology

STUDENTS INTERESTED IN LEARNERS

Language development
Cognitive development
Social/cultural influences on cognitive development
Second language learners
Learner differences and needs (e.g. learning disabilities, ADHD, gifted, SES, gender)

STUDENTS INTERESTED IN LEARNING/MEMORY

Information processing
Problem solving
Transfer of knowledge
Constructivism and situated learning
Cooperative learning
Time-on-task
Feedback

STUDENTS INTERESTED IN MOTIVATION

Intrinsic/extrinsic motivation
Humanism
Attributions
Setting goals
Using interests and emotions
Self-schemas

Adapted from Woolfolk (2007) and Marzano, Pickering, and Pollock (2005)

More exciting is when students move beyond materials I supply and make connections to textbooks they have used in other courses. For example, in the Bilingual Education course some of my students have used the book *Fifty Strategies for Teaching English Language Learners* (Herrell & Jordan, 2004). Students whose focus is on helping English Language Learners succeed often ask if this book can be used. Given its rich theoretical bases, focus on assessment, and strategies based on learning principles, I always affirm this request. I am excited to see connections being made between the projects students are doing in my course and other courses they have taken. Reflecting on past learning and texts and seeing new articles and the course text does wonders for sparking focus ideas.

Once students have a general area of interest I ask them to conduct an observation and write their impression of the current state in their practicum classrooms. One student placed in a second grade classroom wanted to learn more about what his teacher called reading buddies. He wrote:

My mentor teacher uses reading buddies in her 2nd grade class during independent reading time. The students seem to like reading buddies but they do not seem to be engaged in reading their books during this time. Students seem to be out of their seats, talking, and doing other things. In my opinion I believe students are losing valuable reading time and practice that could help them become good readers. I know reading at grade level is a goal of the school and is part of the Arizona Academic Standards but I am not sure if reading buddies is the best strategy to promote important reading skills.

To help clarify his ideas I suggested he read the sections in the text on cooperative learning, elaboration, levels of processing, Piaget, and Vygotsky. I also suggested he look at *Classroom Instruction that Works* by Marzano, Pickering, and Pollock (2005) to gain more insight into cooperative learning and effective grouping strategies. These readings helped this student take what he had written about the current state and clarify, refine, and articulate his ideas into a clearer focus.

I wonder what is going on during reading buddies in my 2nd grade classroom. Are students reading and discussing their books or are they talking and doing other things? Is the use of reading buddies promoting their reading fluency, vocabulary development, and comprehension? Do students understand what they should be doing during this time? Are the students cognitively and developmentally capable of doing reading buddies or do they need more structure and support?

Looking over what this student wrote about the current state of the problem and helping him explore and refine his initial ideas using theories from educational psychology, I was able to help him make a first connection between ideas, theory, and action research.

A sample of focus questions drawn from these sources and others my students have worked on include:

- Is using the Essential 55 as a classroom discipline model having a positive influence on student behavior both inside and outside of the classroom?

- Is the new reading program being used in my second grade classroom increasing the reading comprehension of the students?

- Is the use of Character Counts promoting moral behavior in my 5th grade students?

- Is gender bias present in my kindergarten classroom? Does the teacher call on boys more? Does he use harsher discipline on boys?

- Is the modeling being used in my seventh grade classroom helping students in this class learn what is being modeled? Are students able to retain the information modeled and can they replicate what is being done?

Connecting educational psychology to students' initial interests lays the foundation for a new and valuable way of thinking about theory and how it can be used to inform practice. The students make even more connections as they delve into the research related to their focus.

Fueling the literature review

Students bring their personal prior knowledge to teaching, and they use this knowledge along with general heuristics they have formed to solve problems they face. While using prior knowledge and strategies is not always bad, they can cause biased thinking. As an instructor of educational psychology, I want my students to understand that even though many issues in education are fuzzy and difficult to define, there are better answers and

valid criteria for making good judgments (Kuhn, 2005). I want my students to understand that good research can provide useful insights into classroom issues.

Phillips and Carr (2006) note how authors of published works can be thought of as distant colleagues, and I agree with them. I encourage my students to think of educational psychologists as colleagues who have experienced similar problems and conducted research to help them understand these problems. I strive to help my students see that a review of existing literature is vital to locating their focus within a larger context, gaining insight into what has been investigated previously, and becoming inspired by what others have learned (Mills, 2007). My goal in having students perform a review of the literature is to help them clarify their focus, understand what to look for when they collect their data, develop the vocabulary they need to talk intelligently about their focus, and plan an effective intervention.

To accomplish this goal students are, once again, directed to their textbooks, but for a different task. This time, students use their text not to find ideas, but to become informed; to make the connection between their focus questions and known theory and research findings. To accomplish this goal, students are asked to read, summarize, and explain how sections of their textbook apply to their focus questions and to the children in their classrooms. In addition to the text, each student must also find one applicable journal article and one other resource to review. Fortunately, references in the text often point students to authors and websites of organizations they can use. For example, the student who was investigating reading buddies went back to several text sections he had used to clarify his focus question, and used these in his textbook review. From this initial reading he went on to investigate issues related to making group work effective, especially ways to hold students accountable and ways to create communities of learners. He expanded his ideas and investigated the cognitive, social, and affective benefits of group learning and ways teachers can scaffold and support the process. The *Reading Teacher,* a journal published by the International Reading Association (IRA) also helped him. When he searched this journal, he discovered several articles on grouping strategies and ways to encourage students to read in pairs. The IRA's website (www.reading.org) also proved to be a valuable resource because it listed best practices in reading, many of which connected directly to ideas in our educational psychology class.

Another example of linking a focus to literature can be found in the experience of a student who was very interested in why so many of the students in her classroom had given up on themselves as learners. In her observation of the current state of the problem, she noted how many of the students were attributing their failure to external factors such as the teacher and the school. This student investigated the section in the text that dealt with attribution theory, and this led her to the work of Bernard Weiner (1994, 2000), whose ideas she used to collect data and to intervene.

Another student had been in a classroom last semester where direct instruction was being used in mathematics, but in her current placement the teacher was using a constructivist approach. Intrigued by this difference, she investigated sections in the text that dealt with direct instruction and also those on constructivist views of learning. She became interested in constructivist ideas and investigated the work of Piaget (1969; 1970) and Vygotsky (1978). She also found a section on Lave and Wenger's (1991) idea of situated knowledge that fit perfectly. The reference section at the back of the text pointed her to specific articles and more books she could explore. It also led her to the website of the National Council of Teachers of Mathematics (www.nctm.org) which proved to have a rationale and reason for constructivist strategies.

From these examples, you can see how action research helps my students critically explore an issue and understand the complexity and multidimensionality of problems teachers face. It helps them see that one theory or curriculum cannot provide all the answers and allows me to teach theories in an interactive and connected way. Educational psychology once again fuels action research and helps students gain clarity on their focus question, which in turn helps them complete the next two steps – data collection and analysis.

Fuel for data collection and data analysis

Step three of the action research project requires students to design three data collection instruments, including something that collects what students/teachers say (e.g., an interview, questionnaire, survey, or checklist), something observed (e.g., field notes, a checklist), and something performed, an artifact of learning (e.g. in class work, homework, tests, or projects). Students

must show me each instrument/protocol and they must explain how to administer each instrument. I ask that instructions be specific enough for me or anyone else to go into their classroom and collect data for them. In addition to the Woolfolk text, students purchase *Action Research: A Guide for the Teacher Researcher* by Mills (2007) and use his book for ideas on quantitative and qualitative instruments. We typically devote an entire class session to discussing data collection, so students can begin developing their data collection instruments with my scaffolding and with their classmates' input and support.

Once data instruments are developed and refined, students have three weeks to collect and analyze data. During this time, I provide strategies to analyze quantitative and qualitative data. Quantitative analysis is typically more familiar to students because they are used to receiving grades reported as averages, percents, and equivalencies. Qualitative data analysis techniques, in contrast, are more foreign to my students, so I spend a few class periods on them. I bring in interview data that I have collected in my research, and we use grounded theory strategies to analyze them. I also post for students several websites that address data analysis, such as the Teachers Network (www.teachersnetwork.org).

In addition to methods of data analysis, I also cover issues of data dependability and credibility because I require students to explain how they addressed each of them. In a mini-lecture I explain the uses of member checks, triangulation, critical friends, and contextualizing findings in theory. While psychological theory plays a smaller role in data collection and data analysis, it still contributes. Theory can help students know what to look for during their analyses, and offers benchmarks against which to compare their results. After data analysis students are ready to complete the final step of their project – development of an intervention plan.

Fueling the intervention

Knowledge gained from data collection, data analysis, and literature review is of little use unless students transform what they have learned into an action plan. For the final step of the project, students must create an intervention based on what they have learned in their data analysis and concepts from educational psychology. To begin this step, they must articulate a new focus question that includes a strategy they believe will improve the current state. To scaffold their expression, I provide this sentence: Will *(place your intervention here)* increase students' *(place the academic achievement/behavior you want to achieve here)* as evidenced by *(place how you will measure effectiveness here)*? Examples of two intervention-based focus questions, drawn from the student in the previous example who investigated reading buddies were: Will guided reading buddies increase students' reading comprehension as evidenced by weekly quizzes, level of discourse, and number of books read? Will structured reading buddies increase students' on task behavior as evidenced by daily accountability and responsibility charts? This new focus question stems from the original, is informed by data, and based on theory from educational psychology.

After a new focus question has been articulated, students must thoroughly explain their intervention plans. They articulate who will participate, what will be implemented, the sequence of action, resources needed, and how effects will be monitored. To be sound, an intervention must contain a rationale for each component and be based on what was learned from the data analysis, review of the literature, and theories learned in class. Completing one cycle takes the entire 15 weeks of the semester, and students do not have time to actually implement their intervention plans. However, students are encouraged to provide a copy of their entire project to their mentor teacher and some mentors do use project interventions to make improvements in their classroom. Others use data collected by my students as part of their annual performance goals.

To ensure accountability and issue grades for the course, I use a separate rubric to assess each part of the project. This rubric helps students organize their writing and thoughts. Additionally, it helps me understand in detail what my students are learning and the connections they are making from their focus questions to data and theory and ultimately to the children in their classroom. As an example, a copy of the rubric I use for the Review of the Literature is provided in Figure 2.

Figure 2: Action Research Rubric

STEP 2: **Literature Review/Connection to Theory** AZ Professional Teacher Standard 6 NETS Standard 5	Your text review and each article should take about 1-2 double-spaced pages (4-8 pages total)

	3 – Exceeds	**2 - Meets**	**1 – Approaches**	**0- Does not meet**
Focus		You restate the latest version of your focus.		The latest version of your focus is missing.
APA Format		You type the citations in APA format.		You fail to type the citation of your source in APA format.
Summary of the Source	The summaries you provide are thoughtful, clear, and thorough. Your work synthesizes information on the theory/principle and shows understanding. It exceeds expectations for each source.	The summaries you provide meet expectations. Each summary, for each source, is clear, thorough, and demonstrates adequate understanding of theory/principle.	Your summaries approach expectations. There is an attempt to understand/summarize the theory/principle but there is no clear indication understanding is there.	Your summaries do not meet expectations No connection to theory/principle is made. There is little/to no evidence of understanding.
Student Connection	You thoughtfully, clearly, and thoroughly explain how the theory/principle relates to your student population. Your explanation exceeds expectations.	You clearly explain how the theory/principle relates to your student population. Your explanation meets expectations.	Connection of the theory/principle to your student population is partially explained.	You fail to relate the theory/principle to your student population.
Connection of Theory to Focus	You thoughtfully, clearly, and thoroughly explain how each theory/principle relates to your focus. You tell how ideas from the theory can be applied to your A/R situation.	You clearly explain how each source relates to your focus. You tell how the theory/principle can be applied to your A/R situation.	The connection to your focus is partially explained. You partially tell how ideas from the theory/principle can be applied in your A/R situation.	You fail to relate the theory/principle to your focus. You do not explain how the ideas from the source can be applied in your A/R situation.
Mechanics		Virtually error-free (fewer than 2 errors) and this reflects clear understanding of writing mechanics and thorough proofreading.		Frequent errors in spelling, grammar, punctuation, and flow. The paper shows a lack of understanding mechanics and thorough proofreading.

CONCLUSION

Development of the intervention brings my students full circle through one cycle of the action research process, a process that helps students combine the "fire" of authentic problems with the "fuel" of theories and principles from educational psychology to become problem-solvers and critical thinkers about education and themselves as teachers. Learning action research in an educational psychology course gives students a new and constructive way of thinking about the type of teacher they want to become. While this will not solve all the problems in teacher preparation, it makes theory come alive for students when they use it to solve a real problem they have identified in the context of classroom life. The connection of theory to practice empowers students and helps them understand how children learn and develop appropriate, research- and theory-based strategies to effect change. Educational psychology fuels the fire of action research, and novice teachers who experience this process understand why educational psychology remains the backbone of teaching (James, 1912).

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